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ABSTRACT

This paper discusses the Study of Teaching Basic Reading Skills in Secondary Schools, a project that devised an inservice training model for secondary school teachers who needed skills in reading instruction. In Phase I of the study, 46 secondary reading classrooms were observed to examine the relationship between teaching practice and student gains in reading. The results of this phase provided specific guidelines for effective instructional strategies to use with secondary remedial reading students. Needs were found in the areas of interactive instruction, supportive behavior, off-task activities, and organization and grouping. In Phase II, the findings were translated into a series of workshops for 47 teachers in the districts where Phase I was conducted. One neighboring district was also included. Half of the teachers, the treatment group, were trained; the other half, the control group, received no training until the end of the experiment. Twenty-two of the 24 treatment teachers changed behavior in recommended ways, and their students made more reading gains than did students of teachers in the control group. Appended to the paper are tabular data supporting the findings and a description of the seven workshops in Phase II. (Author/FG)

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The Secondary School Teacher as an Adult Learner

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Abstract

The Secondary School Teacher as an Adult Learner

This paper focused on The Study of Teaching Basic Reading Skills in Secondary Schools, a three-phase study funded by the National Institute of Education. The impetus for studying the teaching of basic reading skills in secondary schools comes from national concern over the large number of graduating high school students who are not functionally competent in reading, writing, and computational skills. In 1979, all but four states had regulatory standards; 22 had a competency test for graduation. Testing students to assess deficiency in basic skills is useful only if strong remediation measures are taken. To meet the requirement, remedial classes in reading are being offered, whether or not teachers with reading credentials are available. Teachers have been allocated to teach basic reading regardless of their backgrounds. As a result, extensive and intensive in-service training is needed to help these teachers learn how to teach basic reading.

In Phase I of the study, 46 secondary reading classrooms selected from six northern California school districts were observed to examine the relationship between what teachers do and what students gain in reading. The results of this study provided some very specific guidelines for efficient instructional strategies to use with secondary remedial reading students. In Phase II, we translated these findings into a series of workshops for 47 teachers in the districts in which Phase I was conducted, plus one neighboring district. One-half of the teachers were trained; the other half were in a control group receiving no training until the end of the experiment. Treatment teachers changed behaviors in recommended ways, and their students made more reading gains than did students in the control groups. Teachers were enthusiastic about the program and recommended the training to other teachers in their districts. To accommodate these requests, which were beyond the scope of our

staff, a Phase III program was developed in which trained teachers were monitored as they trained other teachers. This three-phase effort resulted in a cadre of teacher trainers in the district to carry on the process of teaching secondary teachers effective instructional methods of helping students gain basic reading skills.

Secondary teachers can and do change behavior. From fall to spring, 22 out of 24 teachers were observed to change behavior as recommended on 25 out of 31 variables. Even a teacher of 35 years made significant change in his behavior. The model used for in-service training involved an interactive, supportive counseling approach.

The Secondary School Teacher as an Adult Learner

Are teachers stuck with old behaviors? Are they so burned out they are unwilling or unable to improve their teaching skills? The popular press would have us think so. During the past four years the staff at the Teaching and Learning Institute has provided training to over 150 inservice secondary teachers. This experience has expelled several myths about teachers as learners. Many teachers do seek training to improve skills they perceive need to be improved. Even non-volunteer teachers improve skills when recommendations are based upon objective observations of their performance. Teachers near retirement can and do change behaviors when given specific recommendations based upon their present performance and student needs, i.e., "Old dogs can learn new tricks". However, the nature of the training must be practical and meet teacher felt needs.

In many parts of the country the teaching staff has become quite mature. The vast majority of practicing teachers earned their degrees in the 1940's, 1950's and 1960's. Most teachers have their life credentials and many have earned masters degrees. Therefore any training they seek must meet their perceived needs rather than fulfill mandated requirements. Several social and educational phenomena have pressed teachers to improve skills or develop new skills. During the 1970's, for the first time, secondary teachers were confronted with an increasing number of Asian and

Hispanic students with limited English speaking skills; students lacking basic skills in reading, writing, and mathematics; and mainstreamed handicapped students. None of these students could function satisfactorily in the usual English, mathematics, science, or social studies curriculums. Thus, classes were formed for students needing remediation.

As student population and school budgets dwindled, many of the remaining teachers found themselves required to teach basic reading, writing, and math. Subjects considered frills such as Latin, Greek, philosophy or tennis were eliminated from programs. In order to meet the needs of the students in the schools teachers sought training to learn the necessary skills.

The problem was that very little was known about teaching basic skills to secondary students. The research on effective teaching in the 1970's focused upon the elementary grades. Several correlational studies (Rosenshine, 1979; Medley,1979) and experiments on teaching (Gage, 1978) identified factors to guide effective reading and mathematics instruction in elementary classrooms.

A Correlational Study Conducted in Secondary Basic Reading Classrooms

Information about effective teaching in secondary basic skills classrooms was also needed to guide practice. To this end the author (then at SRI International) proposed a correlational study to the National Institute of Education (NIE). This study was designed to identify effective instructional practices secondary teachers were using in classrooms where students were achieving basic reading skills.

The study was also designed to identify instructional practices that were not effective. The primary purpose of the study was to isolate specific teaching behaviors that could be translated into a staff development program for secondary teachers so that teachers could be advised what to do and what not to do.

To accomplish this purpose an observation system was developed that could measure how much time teachers allocated to various reading activities, e.g., silent reading, oral reading, written assignments, discussion, review, drill and practice, and instruction. This was called a snapshot. The observation system also measured how many questions teachers and students asked, to whom questions were asked, and the nature of the question. If a student's response was right, the teacher's feedback or lack of feedback was recorded. If the student's response was wrong, the system showed whether the teacher guided the student to a correct solution, skipped to another student, or gave the right answer. Methods for controlling student behavior were also recorded. Five interaction observations 5 minute in length were spaced across the class period. Five records of the activities occurring (snapshots) were also spaced across the class period. Data were gathered from each class on three consecutive days. This provided approximately 900 teacher interactions and 15 activity records per teacher.

Spring, 1976 and spring, 1977 reading achievement data from the Comprehensive Test of Basic Skills (CTBS) were collected from

43 secondary classrooms representing six school districts in Northern California. Student gain scores were correlated with 116 observed teacher behaviors. Of these correlations, 29 were significant ($p < .10$). These are shown on Table 1. The variables are quite specific and suggest that teachers should be interactive in their instruction, plan several different reading activities, be supportive or guiding, and keep the student on-task and not socializing. The finding on silent reading and written assignemnts does not imply that these activities should not occur: it does imply they should not dominate the program so that interactive oral activities--reading, discussion, or instruction--are omitted from the program.

Insert Table 1 about here

Four achievement groups of classrooms were identified on the basis of pretest, postest and gain scores (see Figure 1). An analysis of variance of the teaching behaviors observed in these groups provided further descriptions of effective teaching. These data, however, suggested that teachers should vary their teaching processes based upon the achievement level of the students. For example, the effective group I teachers had their students reading about 21% of the time, whereas the effective group II teachers had their students reading aloud 9% of their time (see table 2).

Insert Figure 1 about here

Insert Table 2 about here

An Inservice Training Model

The observation variables have considerable face validity. Thus, it was not difficult to translate the research findings into a sensible inservice training program. To test this hypothesis, our hypothesis was that teachers could and would learn a new set of behaviors and that these behaviors would be related to student achievement gains and absence rate, if certain conditions prevailed.

NIE funded a quasi-experiment in the fall of 1977. The training model that was developed for the workshops was based upon the theory that teachers were more likely to change behavior if the following conditions were met:

- Adequate time was provided to introduce the program to administratos and teachers, and to make clear the links between theories of learning and the research findings.
- Time, place, and length of meetings were convenient for teachers.
- Some type of incentive was provided: release time, stipend, or credit.
- Recommendations for behavior change were based upon research findings from classrooms of students similar to the students in their school.
- Teachers were informed that their behavior change would be measured at the end of each semester and that only they would received the information.
- Teachers' observation profiles were confidential and provided a basis for staff development rather than evaluation.

- Teachers could select one or two of the changes recommended on the profile to try in their classrooms during each of the 5 weeks of the program.

- Each week, time was provided to discuss what teachers found they could change and what was difficult to change.

- Group size was kept small enough so that, each week, the teachers' problems of implementing the recommendations could be received.

- Training leader encouraged teachers to share their techniques for effectively managing time and student behavior, and for working toward more effective administrative policies.

- Training leader was supportive of the teacher's effort to change; and (while recognizing problems with students, parts, and administrators) established a forum where solutions to the problems would be generated rather than just airing the problems.

- Training leader requested teachers to do some homework activity to increase awareness of the class structure, e.g., keeping a seating chart of to whom the teacher speaks during the class period or of which students are off-task during the beginning, middle, and end of period. Teachers could then evaluate whether class activities were appropriate or student seating was appropriate.

- Training leader acted as a role model for teachers, i.e., started on time, was clear in expectations, kept on-task, distributed interactions to all participants, was supportive and guiding, respected confidentiality, and respected individual teacher differences (experience, training, school environment, personal attributes).

Every teaching and learning situation has a curriculum and a delivery system. The curriculum that we developed was based upon research findings. The delivery system was a small groups problem solving process. A series of five workshops were planned for 2 1/2 hours once a week. These were held, for instance, on five consecutive Tuesdays in the fall. The size was limited to six participants

in each session. This amount of time allowed approximately 25 minutes per person to go over their week's efforts to change behavior and to receive feedback and guidance from their peers and from the leader.

A Training Experiment

The quasi-experiment was conducted in the 1977-1978 school year. Secondary teachers who taught basic reading in eight urban and rural school districts were introduced to the study through meetings arranged by their compensatory education director. The purpose of the study was explained and volunteers for the study were requested. The amount and kind of intervention in the classroom was described as was the series of workshops. From the eight districts 52 teachers volunteered. (Some of those were strongly encouraged by their administrators to participate.)

Design

One-half of the teachers in each district were selected for training. The other teachers served as a control group. The groups were matched for the entering ability of their students and the teachers' credentials to teach reading. We found that only 21% of the secondary teachers who had been assigned to teach basic reading classes had a special credential to teach reading. Indeed, 34% had no formal training to teach reading (see Table 3). Most teachers held more than one credential and were trained to teach music, art,

speech, psychology, physical education, typing, English, literature, drama, Spanish, theology, science, or career education (see Table 4). Of the 47 teachers responding to a survey, 34 continued to teach classes other than reading. Teaching experience varied from 1 year to 31 years. 1977-78 was the first year of teaching reading for 11 teachers, while seven had been teaching reading for 10 or more years. After being assigned to teach reading the teachers reported feeling willing but inadequately prepared. Many had sought additional training. Fifty-three percent of the teachers attended some workshops on reading instruction and 49% had taken some college courses. Although these variations in teacher preparation were of interest, because of our sample size we could only control for the presence or absence of a reading credential and student achievment level.

Insert Table 3 about here

Insert Table 4 about here

All teachers were observed for three class periods in the fall. Observers were trained to an 80% reliability on all codes. These fall observations served as the pretest data and were the basis for recommendations to teachers. From the 26 treatment teachers, four groups were formed initially. In the Fresno/Tulare group there were eleven teachers. This proved to be too large a group to allow for all teachers to participate in each meeting. In addition, the Tulare teachers felt burdened at having to drive to Fresno for the meetings. Consequently, we separated the groups and met with each group in its own location. (This experience helped to form our opinion regarding group size and convenience for teachers.)

From the observation data, profiles of behavior were prepared for each treatment teacher. Using findings from the correlational study, a set of recommendations were made for each teacher based upon the reading level of his or her students. At the first workshop, the findings from the correlational study were explained and linked to learning theories. The recommendations for each teacher were then interpreted privately. Each teacher was asked to select two or three of the recommendations they were willing to try the next day in their classrooms. Teachers made a record of their objectives as did the trainer. The trainer made clear the accountability process and mentioned the post observations to be conducted at the end of each semester.

The five workshops were conducted one week apart, usually from 3:30 - 6:00 p.m. Each of the four remaining sessions started

with the questions, "What did you try last week?" and "How did it work?". If a teacher's attempt at making a change did not succeed, other teachers offered suggestions of methods they used for achieving that particular objective. It was made clear that each teacher was operating in a unique situation. Thus, class size, room assignments, and school policies could affect how recommendations were carried out. The teacher trainer listened to the teachers' questions and problems, and then facilitated the group's problem solving process. The leader kept the group focused on the topic of the workshop and explained why specific classroom processes seemed to be effective with secondary students needing remediation. At the end of each workshop the teachers were asked to select another behavior from their profile that was recommended for change and to try it in the classroom the next day. They were also asked to read some background material for the next workshop. (See the attachment for the substance of each workshop.)

Analysis of Teacher Change

Once the workshops were delivered and the pretest and posttest data were collected, the $100,000 question was: Did the workshops make a difference in how the teachers performed in their classrooms?

Mean frequencies for each variable used on the profiles were computed for the control and treatment groups. A report of how each group performed on critical variables is displayed on

Tables 5, 6, 7, and 8. Each group was compared with a grand mean. The grand mean was derived from 43 classrooms observed in the spring in Phase I and 44* classrooms in spring, Phase II. This mean reflects the frequency or percentage of the behaviors that were correlated with student gains in the classroom where they occurred. Our recommendation to teachers in fall, Phase II was to increase or decrease a particular behavior so that it was above or below the spring, Phase I mean depending on whether the variable was positively or negatively correlated with gain.[+] In some cases the teachers were already performing the activity in an effective manner so the recommendation was to continue the activity as they were doing. If the treatment or control group of teachers was performing above or below the mean as recommended on a variable, they were given one point. (This is shown on Tables 5, 6, 7 and 8 in terms of a plus.) In this manner an implementation score was developed for each group. Five Minute Interaction variables (F) are reported in terms of frequency of occurrence during 300 interactions recorded per class period. Snapshot variables (S) are reported in terms of percentage of time observed during 5 snapshots per class period. This is a descriptive analysis wherein trends and meaningful differences are examined, rather than a statistical analysis.

* Seven control teachers and one treatment teacher dropped from the sample during the school year.

+ Recommendations were based upon spring, Phase I, but evaluation was based upon the grand mean.

Interactive Instruction

As previously stated, we encouraged teachers to decrease time taken to make assignments and to increase instruction time. This instruction time variable is a composite that includes instruction using any materials as well as discussions and drill-and-practice activities. This total instruction time (S6, 7, and 8) was observed to have increased slightly for the treatment group from 13% to 15%. The control group went from 11% in the fall to 8% in the spring. The instruction interactions (45) stayed above the mean for the treatment group but steadily declined for the control group (see Table 5).

Insert Table 5 about here

An instructional method includes the presentation of new material and what the teacher does after giving instruction or presenting the new material. This procedure varies. We encouraged asking short direct questions and giving immediate supportive feedback to the student's response. Students who have a long history of failure need consistent support and many opportunities to experience success. The number of questions treatment teachers asked about reading (F17) and the students' response rate (F25) decreased slightly toward spring but remained above the mean. Out of an average of 31 questions teachers asked per period in the spring, students responded an average of 29 times. We encouraged the teachers to distribute the questions among the students, choosing questions each student could most likely answer. We discouraged

calling on volunteers since the same students are likely to always respond and get the feedback. Students need an equal opportunity to respond since feedback is positively correlated with achievement. Data from Table 5 (F136) indicates that teachers in the treatment group called on different students 23 times in the spring (a little less than in the fall). However, out of the 31 questions asked, a different student was asked 23 times. Note that all of these variables are above the grand mean in the treatment group and below the mean in the control group.

When a teacher continues to question one student, it may indicate that the student gave an incorrect response and the teacher was asking probing questions (F110). This is a supportive kind of feedback that is low in frequency but was related to student gain in Phase I. It more than doubled in the treatment group while it decreased in the control group. The message from the teacher to the student in this variable is, "The answer isn't right but I think you (the student) can get it, if I (the teacher) ask the question differently". The main idea is to assist students to respond correctly so that positive supportive praise or acknowledgement can be given. There was also a positive correlation between praise and support with achievement gain and attendance rate in Phase I. The treatment teachers increased the frequency of offering praise and acknowledgement (F71) and corrective feedback (F76, F110), while the control teachers declined on these variables.

In order to give students a daily opportunity to succeed we suggested giving short quizzes (5-10 items) that could be scored easily. The quizzes should be designed to allow the students to succeed at a rate of 80-100%. Students who have seldom received 100% need chances to succeed on this level. Success becomes a motivating factor for students who have stopped trying. Although there was a considerable increase in the number of quizzes (S10) being given in both the treatment and control groups from fall to spring, the number of quizzes observed in the treatment group in the spring was still fewer than the grand mean.

In addition to the instruction of how to teach new material through drill and practice and positive support, we suggested that the teachers have the students in the low reading groups read aloud. Hearing as well as seeing the words is helpful to these students. Many teachers were reluctant to try this since they felt the students would be embarrassed. One teacher who had been teaching 29 years tried grouping and having students read aloud. He reported that he and the students enjoyed the process--"It seemed to break the monotony". Table 5 indicates that although the treatment did increase the number of reading aloud (F43) interactions, they were still lower than the grand mean. The percent of time (S4) went down slightly. This was a disappointment but we conclude that it is difficult to get teachers to try something they have opinions against and haven't experienced previously.

The reading interactions comprise two-thirds of the 300 interactions recorded for the treatment groups (F94). We would have preferred to see this increase rather than decrease, but it is higher for treatment teachers than for the control teachers (although the control group started high in the fall). One explanation for the lower number of reading interactions in the treatment groups may be that the number of interactions centering on other subject areas--current events, social studies, science--increased in the spring. These interactions are coded as task-oriented when subject matter other than reading is discussed.

On eight of the twelve interactive instruction variables the treatment group is above the grand mean and the control group mean. Although the reading aloud variable was not increased to the degree we might hope, we conclude this part of the treatment was effective.

Non-Interactive Instruction

In Phase 1, the data suggested that more gain was achieved in classrooms where there was more interactive instruction and where several activities occurred during one period. The no-gain classrooms in Phase I tended to have a high rate of written assignment and silent reading and not much interaction with the students. Thus we recommended a reasonable balance between these activities: encouraging more reading aloud, more discussion and reviewing, less silent reading, and fewer written assignments. The snapshot variables on Table 6 indicated that both groups were above the

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Insert Table 6 about here

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grandmean on silent reading (S3) in the spring. Time spent on written assignments (S9) decreased for the treatment group and stayed about the same for the control group.

In classrooms where there were high rates of silent reading and written assignments we found there were also high rates of teachers doing tasks like grading papers or making lesson plans during class. To change this pattern we encouraged teachers (especially those with students in the low or medium groups) to stay involved with the students and cautioned them not to grade papers, prepare lessons, etc. during class. Results indicate that on variables describing situations where teachers were not involved with students (S2 and F122), the treatment teachers increased but were below the grand mean. The control teachers increased this behavior to considerably above the mean. In fact, by springtime, control teachers were not involved with students 29% of the time when the snapshots were recorded. Thus, the treatment group was lower than the grand mean and the control group mean on three of the four non-interactive instruction variables.

Off-Task Activities

In other research on teaching (Evertson, Anderson and Brophy, 1978; Stallings and Kaskowitz, 1974; and Good, 1978), the variable most often found to be related to achievement gain is the time students spend on-task. In secondary classrooms where the reading period is likely to be only 45 minutes, it is of utmost importance to reduce the off-task behavior and to increase the on-task behavior.

The most striking difference we found in Phase I between the no-gain classrooms and the gain classrooms was in the amount of time teachers spent talking about behavior, the number of social comments, and students or teachers not involved in the process of reading. Thus, in the workshops we focused considerable effort on techniques for reducing off-task behavior and increasing on-task behavior. Table 7 suggests that workshops had an effect. In variable F56, social comments, the treatment groups dropped in the winter and increased slightly in the spring, but overall it was lower than the grand mean. The control groups started slightly lower in the fall and increased in winter and increased dramatically in the spring. Given teenagers and springtime, the increase is not surprising. Still, the treatment group teachers were able to hold the socializing down.

The treatment teachers' comments on students' behaviors (F96) were reduced by one-third. In the fall the treatment teachers made an average of 9.6 statements about behavior out of 300 statements during the class period and by the spring this had dropped to 5.9. The control teachers started at 6.7 and increased slightly to 7.5.

Students' non-involvement in tasks (S-12, S-13) increased in the treatment group, but remained below the grand mean of 11%. The control group increased from 5% to nearly 14% in the spring. This means that when the spring observations were made some student or students were either chatting or not involved in any activity (i.e., staring out of the window) 14% of the time.

Insert Table 7 about here

Other events that take teachers and students off-task are intrusions from outside the class. There are many reasons why people enter the classroom and stop the activities: collecting absence data, taking students from class for meetings, school announcements, class photos, purchasing tickets, etc. Phase I data revealed a negative relationship between outside intruders and student gain. Limiting the number of intrusions into the teacher's instructional time is a school-level issue which teachers cannot control. While we made teachers aware of the finding regarding intrusions, there was little they could do about it. However, the rate of intrusions in treatment classes diminished slightly in the spring and increased for the control group (F135).

Organization and Grouping

The time spent in organizing and managing the classroom is time spent off the task of teaching reading. However, it is of utmost importance that the classroom is well organized; otherwise it will not function smoothly.

In our Phase I study, we found that in all three gain groups the teacher spent less time making assignments and more time instructing the students than did the teachers of no-gain classes. Thus, we encouraged the treatment teachers in Phase II to be effecient when making assignments, e.g., write assignments for the week on a ditto sheet in student folders. By all means let the students know what to do when they finish an assignment. The message was, have a known agenda from the moment a student walks

in the room until the period ends.

The observation data indicate that the percentage of time spent making assignments (S5) went down slightly for the treatment group and stayed the same for the control group (see Table 8). The number of interactions about assignments and organization (F120) increased somewhat for the treatment group but remained below the grand mean. The control group increased by 20 interactions from fall to spring. The number of student comments about assignments (F108) decreased for the treatment group and increased for the control group.

Data shown in Table 8 indicate that a high percentage of observed time was spent by teacher and students in management activities, i.e., passing books, collecting papers, grading papers (S2 and S15). These activities decreased for the treatment group and increased for the control group in the spring.

How the teacher organizes the classroom to keep students on-task will make a difference in how well the on-task objective is accomplished. Research findings in Phase I indicate that teachers who move around the classroom monitoring students' work had more student reading gain than did teachers who allowed students to move around the room coming to the teacher for help. We encouraged our teachers to do the moving around. The treatment teachers held this behavior constant and were above the grand mean (F91) while the control teachers decreased this behavior by 50%.

Insert Table 8 about here

Many of the classrooms had children with different reading abilities, so we encouraged the teachers to group the students by ability. Given the findings (in Table 1) that working with one student at a time is an inefficient way to distribute the teacher's time, we recommended that teachers cut down the amount of time spent with one student and increase the time they spent working with a group. Students learn from each other in groups because the instructional time with the teacher is increased. Rather than 2 minutes of individual time they may have 12 minutes of group time with the teacher.

The data on Table 8 indicate that speaking to groups (F48) increased slightly and working with individuals (F5) decreased in the treatment group: there were an average of 20 fewer interactions per period with individuals in the spring than in the fall. There were many more interactions with one person than there were with groups. Teachers working with groups (S120) increased from fall to spring in the treatment group. When working with a group, teachers are most likely to ask one student at a time to answer a question so that interactions with individuals will be recorded even if the individual is within a small group. This may help explain the much higher rate of speaking to individuals (S119) rather than to groups.

Data for the treatment group shows that 4% more time was spent with groups (S120) in the spring than was in the fall. Less time was spent with the total class (S121) but it still was above the grand mean. Counter to our suggestion, slightly more time was

spent with individual students (S119). The amount of time control teachers spent with one student remained approximately the same throughout the year. The control group started in the fall by spending 7% more time with groups (120) than did the treatment group, and this decreased somewhat in the spring. Learning to work with groups is a difficult organizational challenge for most high school teachers. Secondary teachers have not been trained to orchestrate and plan for several groups to function at the same time. Those teachers who formerly had been elementary teachers found this recommendation easier to carry out than did teachers trained only to teach in secondary classrooms. More teachers in the control group had been trained as elementary teachers, explaining in part their higher fall scores for grouping.

To encourage teachers to be in strict control of their classrooms, we suggested that they keep the number of choices students make at a minimum. Much time can be wasted while students decide whether they want to do this or that. We found students were rarely allowed to make choices in either group--fall or spring (F105). The grand mean was only .11. Thus, we think this variable has little impact on student gain and is a small part of a larger picture.

Summary of Implementation Findings

For the most part, the treatment teachers changed behavior in the directions recommended in midwinter. A late spring observation indicated that treatment teachers maintained most of their behavior changes,

whereas control teachers' classes became more lax and less task-oriented.

Some of the teaching processes were more difficult than others to implement. For instance, teachers were reluctant to try oral reading activities. Just talking about the rationale and purpose of the oral activities was not enough for teachers to try this new activity in their classrooms. They might have benefited from seeing a demonstration of how oral reading can be handled effectively at the secondary level.

It was much easier for teachers to increase their instruction time, the number of questions asked, and the amount of feedback given. These were behaviors they already had in their teaching repertoire; it was only a matter of increasing their occurence.

As teachers increased their active instruction time they decreased their time spent in administrative paper work and getting things organized. Student time off-task also decreased. Overall, the treatment teachers implemented 25 out of 31 implementation variables.

Student Outcomes

The first and most important question to ask of the student achievement data is: Did the treatment group's students gain more than the control group's students? To answer this question we used those classrooms that had district reading scores available from Spring 1977 and Spring 1978. This provided a sample of 15

treatment classrooms and 14 control classrooms. The student attrition from fall to spring was quite high and the number of classrooms with sufficient student test data was reduced. Although we started the study with comparable groups we found that the treatment group was considerably lower on the pretest than was the control group (see table 9).

Table 9

A Comparison of the Reading Test Scores For The Treatment and Control Groups of Teachers

	Pretest			Posttest			Gain	
	$\bar{X}$	S.D.	Range	$\bar{X}$	S.D.	Range	$\bar{X}$	Range
Treatment (N=15)								
Standard Scores	456.04	42.01	399.7 to 538.6	510.89	41.65	433.4 to 610.0	50.45	17 to 112
Grade Equivalent	(5.7)		(4.1 to 8.3)	(7.5)		(5.1 to 10.7)	(1.8)	(.7 to 2.2)
Control (N=14)								
Standard Scores	499.79	34.75	461.3 to 590.0	537.41	38.67	476.1 to 624.8	37.90	11 to 75
Grade Equivalent	(7.2)		(5.8 to 10.2)	(8.4)		(6.3 to 11.1)	(1.2)	(.3 to 2.2)

The average for the treatment group was the grade equivalent of 5.7, and the lowest classroom score was 4.1. In contrast, the control group's average pretest score was 7.2 grade equivalent and the lowest class score was 5.8. The tests given in each class were selected for appropriate reading levels so that there would not be a topping out effect on posttest scores. Data on Table 9 indicate that the treatment group averaged a 1.8 grade equivalent gain. This is impressive, given they had lower performing student with whom to work. The difference in gain between the treatment and control group is significantly different ($p < .08$). The reader is

reminded that it is difficult to obtain significant differences with small samples. Nevertheless, the educational significance here is six months more gain by the treatment group than by the control group. It is very difficult to make such achievement in secondary classrooms where students have a long history of failure.

A procedure that has emerged from the work of Hedges, Gage and Olkin (1978) suggests that it is reasonable to consider the size of effects of treatment upon a group of students. Several recent reports of experiments report their effects in this manner (Glass and Smith, 1979). An analysis of variance of the two groups provided the data shown on Table 10. The effect size is one-half standard deviation. This is considered a moderate effect on student scores attributable to the training of the treatment group. When the scores of two teachers in the treatment group who had irregular attendance and did not perform the instructional processes to the degree expected were eliminated from the data, this effect size was increased to .70 standard deviation.

Table 10

Means and Standard Deviations of Gain on CTBS Scores

Group	$\bar{X}$	S.D.
Control (N = 14)	37.90	24.15
Treatment (N = 15)	50.45	31.94

Effect Size = $\frac{50.45 - 37.90}{24.15}$ = .52 S.D. units

Summary and Discussion

The quasi-experiement provided an opportunity to assess the secondary teacher as a learner. We found no relationship between teachers implementing the program and teaching credentials, age, or years of experience. Attendance at the workshops did seem to relate to teachers implementing the program and student achievement. The only two teachers missing two workshops each scored lower on implementation and their students made less reading gain.

Teachers reported that some school practices or policies impede program implementation. Using all of the available time effectively is a central focus of the training program. Schools vary widely on how much intrusion is allowed during the class period. Intrusions included messages on the loudspeaker, students being called from class, tardy students, and personnel delivering messages. All of these events interrupt the instructional process and take students' attention from their tasks. In classrooms where these events occurred with more frequency, students gained less in reading. Teachers felt they had little control over these intrusions. Nevertheless, the intrusions for the treatment teachers decreased. Several teachers reported they had brought the research findings to their principal's attention and some changes in practice had followed.

Another problem teachers reported was that many schools are organized so that teachers do not have their own rooms. Of the reading teachers, 49% shared rooms, and 28% moved from room to room.

Several teachers reported being in six different rooms during the day. This makes it very difficult to establish a reading environment where students can see their progress charted or where teachers can have appropriate reading or testing materials close at hand. Under these circumstances it is difficult to have everything ready to start when the bell rings. Teachers reported placing all the materials in a cart and literally racing students from class to class. One teacher had to go down two flights of stairs with his cart. A significant correlation was found between a permanent classroom and student achievement ($p < .05$). (Teachers appreciated this finding.)

A fundamental problem in many schools is the absence of a program for diagnosing learning problems at the secondary level. Most elementary school children are screened for sight or hearing problems, or dyslexia, and special programs are arranged for the children. If junior and senior high school students are still performing at a second, third, or fourth-grade reading level, then information should be available that describes any student's difficulties in hearing, sight, or perception, as well as specific deficits in reading skills. The reality is that secondary students are rarely tested. Limited school budgets have cut the time available for school psychologists or counselors to provide such services. Most teachers reported that the only student information available were scores on the Comprehensive Test of Basic Skills given in the 8th or 9th grade. Teachers need to develop diagnostic and per-

scriptive skills if they are to plan adequatly for their students.

For all workshop sessions, the trainers made an effort to create an atmosphere that fostered uninhibited participation by the teachers. The teachers expressed appreciation for the opportunity to discuss their problems freely and to receive specific suggestions for methods to improve their effectiveness in the classroom. The teachers liked receiving practical recommendations that could be tried the next day in the classroom. They also liked the small group interactive nature of the sessions--where they could discuss which ideas worked and made their classroom life easier, in addition to the ideas that didn't work as well in their classroom setting.

In our more recent training effort (1980-81) we have provided opportunities for teachers to observe in classrooms where the program is being implemented. Seeing a model of the behavior seems to be very benefical to teachers trying to change that behavior. We have also had the trainer observe in the teachers' classrooms and provide immediate feedback on the teachers' behavior objectives.

Teachers need help to effectively teach the students in their classrooms. The onus is upon school administrators to select training curriculums that meet teacher felt needs. The delivery system of the program should be comprehensive and on-going with opportunities for teachers to receive feedback on their progress. Every staff development program should be evaluated for

effectiveness by observing teacher behavior before and after the intervention and measuring teacher change. The impact upon student achievement can then be evaluated.

The processes of teaching and learning are inseparable. One teacher expressed this sentiment during a training session. "Everytime I think I'm teaching I learn as much as I teach." The teachers in our program during the past four years have demonstrated motivation, creativity, perseverance, and ability to learn and teach. They have changed behaviors even in some very difficult school situations. What they need as learners is what their students need: respect, support and clear expectations.

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Table 1

Partial Correlations of Process Variables and Student Reading Achievement (CTBS) (N=36 Classrooms)

Var. No.	Interactive on Task Instruction	r	p
1	Students read aloud with teacher from workbook	.40	.007
2	Students read aloud from textbook to small groups	.59	.001
3	Students read aloud (Interaction)	.24	.08
4	Teacher instructs using chalkboard	.23	.08
5	Teacher instructs one student	-.25	.07
6	Teacher instructs small group	.22	.08
7	Teacher instructs entire group	.23	.08
8	Teacher discusses reading content or reviews seatwork	.41	.006
9	Teacher asks students questions about reading or task	.34	.05
10	Students respond to teacher's questions about reading or task	.35	.05
11	Teacher praise and support for correct responses	.29	.05
12	Teacher negative corrective feedback for wrong response	-.21	.09

Table 1 (Continued)

Var. No.	Interactive on Task Instruction	r	p
13	Teacher positive guiding corrective feedback for wrong response	.52	.001
14	Teacher skips to another student when first student's answer is wrong	-.21	.09
15	Teacher gives oral quiz	.25	.07
16	All positive interactions about task**	.24	.08
17	Students ask teacher questions about assignment	-.22	.08
18	Teacher responds to student about assignment	-.21	.09
	Non Interaction on Task Instruction		
19	Students read silently in workbooks or textbooks	-.30	.05
20	Students write in workbooks or worksheets	-.36	.01
21	Teachers work alone grading papers	-.24	.07
22	Teacher not interacting with students (doing administrative tasks)	-.23	.08

Table 1 (Continued)

Var. No.	Off Task Behavior	r	p
23	Student social interactions	-.52	.001
24	Student uninvolved in anything	-.27	.07
25	Teacher negative corrective feedback for behavior***	-.23	.08
26	All interactions related to behavior	-.23	.08
27	All negative interactions	-.29	.05
28	Students sent from room for disciplinary reason ***	-.26	.05
29	Teacher interacts with outside intruder	-.25	.07

** Could be a subset of variables 11 or 13.

*** Could be a subset of variable 27.

Table 2

Distribution of Time Across Activities in
Four Ability Groups in Secondary Reading Classrooms*

	Group I ($\bar{X}$ Percent)	Group II ($\bar{X}$ Percent)	Group III ($\bar{X}$ Percent)	Group IV ($\bar{X}$ Percent)
Interactive On-Task Activities				
Reading aloud	21%	9%	1%	1%
Instruction	16	11	17	10
Discussion	12	5	3	1
Drill and practice	4	4	4	2
Praise/support**	19	16	7	11
Corrective feedback**	20	16	4	12
Non-Interactive On-Task Activities				
Classroom management	12	15	17	27
Reading silently	9	16	12	21
Written assignments	4	22	23	28
Off-Task Activities				
Social interactions	5	6	3	8
Students uninvolved	6	4	4	9

Notes: Group I--Low prestest/high gain
Group II--Moderate pretest/moderate gain
Group III--High pretest/moderate gain
Group IV--No gain.
$\bar{X}$ = Group mean.

* These activities may occur simultaneously; therefore, the sum is greater than 100%

** This variable is reported as frequency of occurrence per 45 minute period.

Table 3

Summary of Teachers' Training and Experience

(n = 47 teachers)*

Type of Training	Percent of Teachers
Have a specialty in teaching reading	21.3%
Attend workshops	53.2
Take college courses	48.9
Have an elementary credential	19.1
Have no formal training to teach reading	34.0
Also teach other subjects	72.3

Experience	Range
Total years teaching	1-31 years
Years teaching reading	1-12 years

*47 of the 52 Teachers responded.

Table 4

Credentials for Teaching by Subject Area

Credentialed Subject	No. of Teachers
Reading	10
Literature	5
Writing	3
Grammar	2
Language Arts	4
Speech	3
English	24
Spanish	2
Theology	1
Music	3
Drama	4
Art	3
Career education	1
Commerce	1
Business	1
Physical education	4
Aviation	1
Ethnic studies	1
Social studies	16
History	12
Political science	1
Psychology	2
Life science	2
Biological and physical sciences	2
Math	1
State requirements	1

Table 5

Interactive Instruction

		Spring Grand Mean	More or Less*	Treatment Teachers (N=25)				Control Teachers (N=19)			
				Treatment Group Implementation Score	Fall $\bar{X}$	Winter $\bar{X}$	Spring $\bar{X}$	Control Group Implementation Score	Fall $\bar{X}$	Winter $\bar{X}$	Spring $\bar{X}$
S6, 7,8	Instruction activities	12%	More	+	13%	15%	15%	0	11%	9%	8%
F45	Instruction interactions	54.3	More	+	66.3	44.3	58.3	0	53.6	50.0	44.4
F17	Teacher questions: reading	31.1	More	+	37.2	33.0	31.7	0	40.2	33.9	25.8
F25	Student response: reading	28.6	More	+	33.3	29.0	29.1	0	34.8	29.2	25.3
F71	Praise/support reading or task	12.9	More	+	12.6	13.8	15.2	0	13.4	12.4	11.6
F76	Corrective feedback: reading	12.7	More	+	10.4	10.8	13.0	0	16.6	12.1	12.4
F110	Probing questions	.41	More	+	1.3	2.2	3.0	+	2.8	1.5	2.0
F136	Teacher interacts: different student	21.9	More	+	26.0	20.9	23.1	0	25.8	21.0	21.9
S10	Tests or quizzes	1.2%	More	0	.2%	1.8%	1.4%	+	.4%	.8%	1.7%
F43	Students reading aloud	17.3	More	0	10.7	13.8	13.8	0	14.4	13.7	16.1
S4	Reading aloud activity	5.8%	More	0	3.9%	1.9%	2.3%	0	3.4%	5.1%	5.7%
F94	All interactions: reading	202.1	More	+	218.7	208.0	199.0	0	244.1	209.0	181.7
				Total + 9				Total + 2			

S = Snapshot variables on percentage of time observed.
F = Five minute interaction variables - frequency out of 300 interactions.

*More = treatment teachers were directed to do more of these activities than the grand mean.
Less = treatment teachers were directed to do less of these activities than the grand mean.

Table 6

Non-Interactive Instruction

		Spring Grand Mean	More or Less *	Treatment Teachers (N=25)				Control Teachers (N=19)			
				Treatment Group Implementation Score	Fall $\bar{X}$	Winter $\bar{X}$	Spring $\bar{X}$	Control Group Implementation Score	Fall $\bar{X}$	Winter $\bar{X}$	Spring $\bar{X}$
S3	Silent reading	13.8%	Less	0	15%	13%	16%	0	11%	12%	15%
S9	Written assignments	20.9%	Less	+	24%	24%	18%	0	24%	26%	23%
F122	Teacher without students	41.0	Less	+	17	25	36	0	24	36	47
S2	Teacher: manager--no students	27.8	Less	+	21%	24%	22%	0	21%	26%	29%
				Total + 3				Total + 0			

S = Snapshot variables on percentage of time observed.
F = Five minute interaction variables--frequency out of 300 interactions.
* More = treatment teachers were directed to do more of these activities than the grand mean.
Less = treatment teachers were directed to do less of these activities than the grand mean.

Table 7

Off-task Activities

		Spring Grand Mean	More or Less*	Treatment Teachers (N=25) Treatment Group Implementation Score	Fall $\bar{X}$	Winter $\bar{X}$	Spring $\bar{X}$	Control Teachers (N=19) Control Group Implementation Score	Fall $\bar{X}$	Winter $\bar{X}$	Spring $\bar{X}$
F56	Social comments	5.3	Less	+	2.2	1.9	2.9	0	1.5	2.6	8.1
F96	Interactions: Deviation	8.4	Less	+	9.6	5.7	5.9	+	6.7	7.6	7.5
S12,13	Students uninvolved in tasks	11.4%	Less	+	4.5%	5.3%	9.1%	0	5.1%	4.7%	13.9%
F135	Class intrusions	2.6	Less	+	2.7	3.1	2.1	0	2.6	2.4	3.3
				Total + 4				Total + 1			

S = Snapshot variables on percentage of time observed.
F = Five minute interaction variables--frequency out of 300 interactions.
*More = treatment teachers were directed to do more of these activities than the grand mean.
Less = treatment teachers were directed to do less of these activities than the grand mean.

Table 8

Organization and Grouping

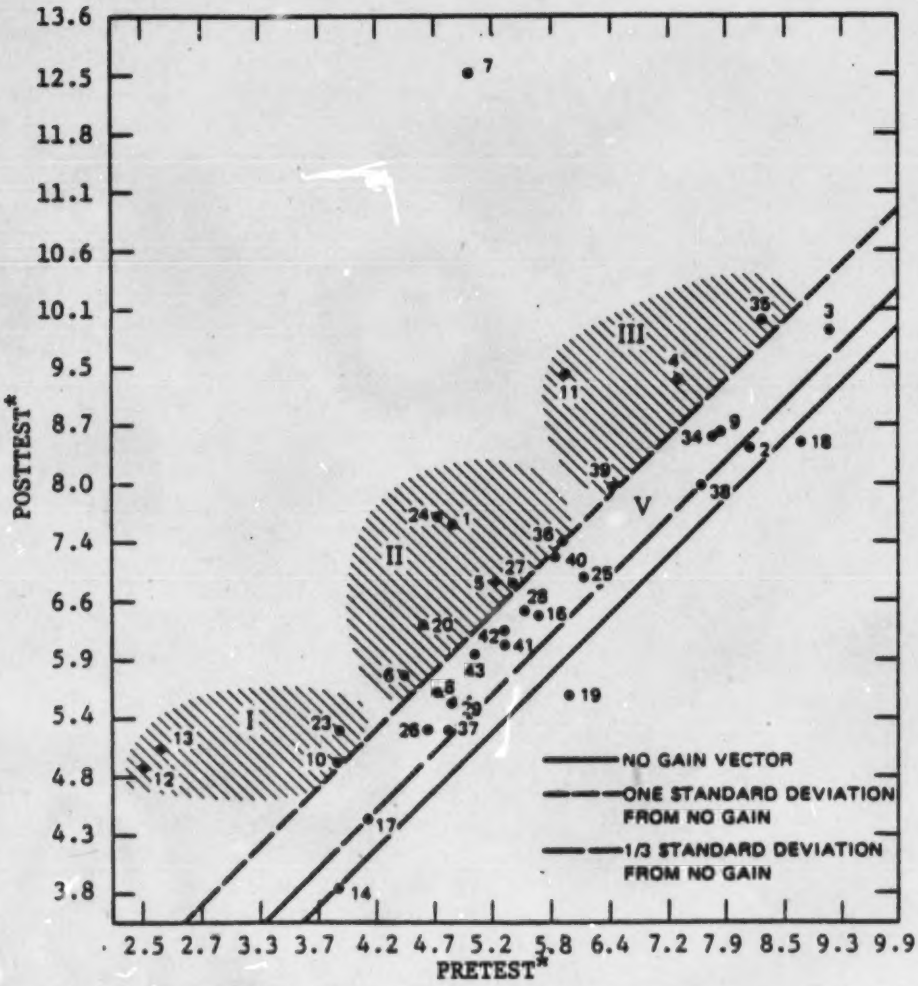
		Grand Mean	More or Less*	Treatment Teachers (N=25)				Control Teachers (N=19)			
				Treatment Group Implementation Score	Fall $\bar{X}$	Winter $\bar{X}$	Spring $\bar{X}$	Control Group Implementation	Fall $\bar{X}$	Winter $\bar{X}$	Spring $\bar{X}$
S5	Making assignments	4.5%	Less	+	5%	5%	3%	0	5%	4%	5%
F120	Interactions: assignments and organization	61.9	Less	+	50.7	55.0	58.1	0	57.7	78.9	78.5
F108	Student comments: assignments	8.7	Less	+	7.2	6.3	4.7	+	6.0	9.7	8.5
S2,15	Total class management	30.1%	Less	+	26%	26%	24%	0	24%	31%	31%
F91	Teacher movement	15.8	More	+	20.1	22.7	19.6	0	25.9	15.1	12.5
F48	Teacher instructs group	4.4	More	+	5.0	7.3	7.2	0	1.7	4.8	2.4
F5	Teacher individual student	78.7	Less	+	91.4	82.6	70.8	+	89.0	77.0	73.3
S119	Teacher with individual	25.0%	Less	0	23%	-	26%	+	24%	-	23%
S120	Teacher with group	16.6%	More	+	13%	-	17%	0	20%	-	16%
S121	Teacher with total class	24%	More	+	30%	-	26%	0	26%	-	22%
F105	Offer student choices	.11	Less	0	.17	.05	.16	+	.05	.12	.14
				Total + 9				Total + 4			

S = Snapshot variables on percentage of time observed.
F = Five minute interaction variables--frequency out of 300 interactions.

*More = treatment teachers were directed to do more of these activities than the grand mean.
Less = treatment teachers were directed to do less of these activities than the grand mean.

47

48



*Scores presented as grade equivalents. These were derived from standard scores.

Figure 1. Scattergram of Phase I Pretest and Postest--CTBS Scores

Appendix A

Description of the Workshops

Workshop 1 provides each teacher with a profile of his or her observed behavior (see Figure 1A). The observation variables are listed in the left column. These are variables used in the study of Teaching Basic Reading Skills in Secondary Schools (Stallings, Needels and Stayrook, 1979). They have considerable face validity which makes the findings understandable to teachers. The fact that the findings were generated from classes similar to the ones in which the teachers were working lends credibility to the research. The variables used in the study are very specific and translating them into recommendations for teachers is not a difficult task. Each teacher receives his/her own set of recommendations for behavior change based upon three days of observation in a class of his/her choice. For example, we observed Sam Jones' period No. 3 prior to a series of inservice workshops. He received the behavior profile shown in Figure 1. The X indicates Sam's pre-training observation. The line down the middle is the mean for approximately 100 classes. Sam Jones was spending 46% of the class time in management tasks (see pretest score for the first variable). This indicates that Sam was spending approximately one half of the class time not being involved with students, e.g., grading papers or keeping records. The mean for all teachers on this variable was 28%. After interpreting the study findings to Sam we made the recommendations shown in the left column. Our recommendation was to provide more instruction, more interaction, more feedback and do less paper grading and record keeping during class time.

More and less are defined in terms of percent of time spent in specific activities or in terms of frequencies of interactions. These recommendations are guided by the level of student achievement. To succeed, lower achieving students require more auditory input and more oral expression than do higher achieving students. The data on Table 1A are based on analysis of variance comparing effective teaching processes for three levels of achievement of secondary students and the ineffective teaching processes in classrooms where students made little or no gain. Teachers with students achieving below the fourth grade level will be encouraged to provide oral reading approximately 20% of the time, oral instruction approximately 16% of the time, etc. Teachers with students achieving above the sixth grade level would not be encouraged to do as much oral reading but the amount of instruction is about the same.

The remaining workshops in the series provide the assistance teachers need to carry out the recommendations.

In Workshop 2 the achievement level of the students in the class chosen for study are used to determine more exactly how students should be grouped, how time should be spent and how reading should be approached. Methods to develop vocabulary and word concepts are described for each achievement group. Science, math and social studies teachers are given practical suggestions of how to help low achieving students develop a vocabulary to understand the key concepts of the course content. Recommendations for assessing student reading ability are provided. Some schools have very little easily-accessed information for secondary students.

TEACHER NAME: SAM JONES

LAKEWOOD HIGH SCHOOL

WASHINGTON UNIFIED SCHOOL DISTRICT

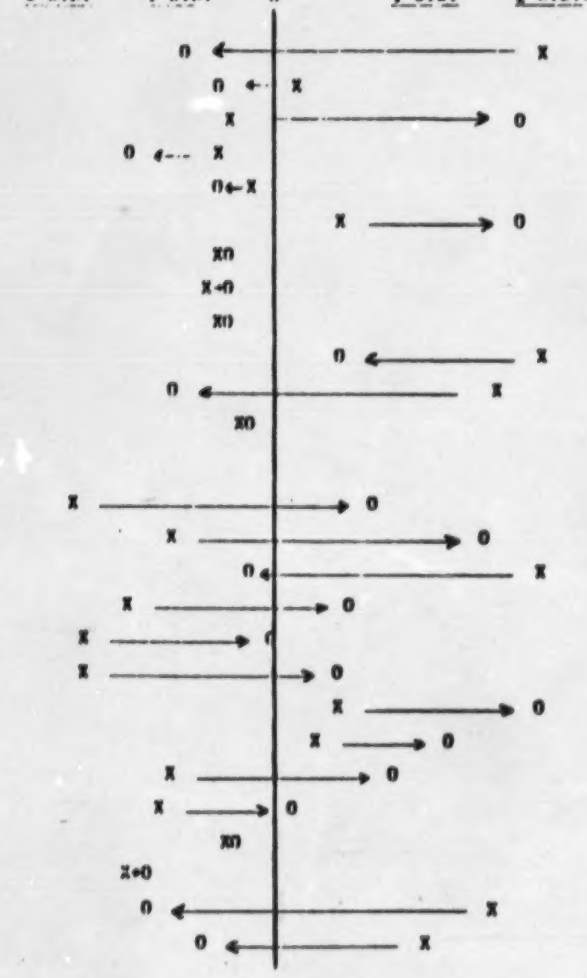
FIGURE 1 A

STANDARD DEVIATIONS FROM THE MEAN

Mean for All Classes

Less Frequent ‹--- ---› More Frequent

‹ 2 S.D. | 1 S.D. | 0 | 1 S.D. | 2 S.D. ›



Snapshot Variables	Recommendation	All Classes	Sue's Class Pre	Sue's Class Post	Implementation
Teacher class manage/no students	Less	28.	46.	07.	✓
Total silent reading	Less	08.	09.	05.	✓
Total reading aloud	More	09.	06.	29.	✓
Total making assignments	OK	06.	24.	00.	✓
Total instruction	More	10.	18.	13.	
Total discussion	More	02.	04.	18.	✓
Total practice drill	More	01.	00.	00.	
Total written assignments	OK	27.	17.	21.	✓
Total test taking	More	02.	00.	00.	
Total social interaction	Less	04.	15.	07.	✓
Total student uninvolved	Less	05.	15.	01.	✓
Total discipline	OK	00.3	00.	00.	✓
Interaction Variables					
Teacher to individual student	More	89.	48.	113.	
Teacher to groups	More	13.	01.	38.	✓
Teacher to class	OK	44.	137	37.	
Teacher direct question, reading	More	41.	23.	50.	✓
Student response, reading	More	42.	19.	43.	✓
Teacher praise, support, reading	More	13.	08.	34.	✓
Teacher corrective feedback	More	13.	19.	53.	✓
All interactions/reading	More	208.	230.	304.	✓
All interactions/behavior	OK	06.	01.	11.	✓
All interactions/positive	More	04.	00.	04.	
All interactions/negative	OK	00.	00.	00.	✓
Student comments, assignment	OK	09.	01.	33.	✓
All interactions/class assignment	Less	69.	144.	17.	✓
Teacher manage class, no student	Less	33.	73.	05.	✓

X = Pre-Training Observation
O = Post-Training Observation
—› = Direction of change
✓ = Correctly Implemented

PROFILE OF SAM JONES' PRE- AND POST-TRAINING OBSERVATIONS

TABLE 1A

DISTRIBUTION OF TIME ACROSS ACTIVITIES IN FOUR ABILITY GROUPS IN SECONDARY READING CLASSROOMS*

	Group I ($\bar{X}$ Percent)	Group II ($\bar{X}$ Percent)	Group III ($\bar{X}$ Percent)	Group IV ($\bar{X}$ Percent)
Interactive On-Task Activities				
Reading aloud	21%	9%	1%	1%
Instruction	16	11	17	10
Discussion	12	5	3	1
Drill and practice	4	4	4	2
Praise/support**	19	16	7	11
Corrective feedback**	20	16	4	12
Non-Interactive On-Task Activities				
Classroom management	12	15	17	27
Reading silently	9	16	12	21
Written assignments	4	22	23	28
Off-Task Activities				
Social interactions	5	6	3	8
Students uninvolved	6	4	4	9

Notes: Group I--Low pretest/high gain
Group II--Moderate pretest/moderate gain
Group III--High pretest/moderate gain
Group IV--No gain.
$\bar{X}$ = Group mean.

*These activities may occur simultaneously; therefore, the sum is greater than 100%

**This variable is reported as frequency of occurrence per 45-minute period.

Workshop 3 focuses upon making good use of the total class period. Efficient means of making assignments and making clear expectations for quality and quantity of work are discussed. If classrooms have students of different achievement levels, teachers are guided to teach two or three groups to accomodate these differences. Lesson plans for several groups or models of group instruction are provided and teachers are guided to plan two or three activities for each group rather than just reading silently or doing workbooks all period.

Workshop 4. Because so many behavior variables were found to be negatively correlated with reading achievement, this workshops provides specific recommendations for behavior management. Each teacher receives a packet to read before the session. During the session, the leader asks the teachers what was the most difficult behavior problem they had to handle the past week. In each of the prior sessions, the teachers have eventually mentioned the same problems: tardiness, absenteeism, arguments, shouting out demeaning remarks, and physical fights. The leaders ask how each teacher handled such situations. Some of these incidents are role played. Ways of handling such situations are suggested by the teachers and the trainers. Teachers then formulate recommendations based on the research findings and group suggestions. Techniques for motivating students toward good behavior and achievement are also discussed in the fourth session.

Workshop 5 provides instruction and practice in a direct method of providing instruction, questioning and feedback. Teachers are encouraged to provide some verbal instruction and ask students (by name - not by volunteers) to respond. If the response is correct the teachers provide some praise or acknowledgement feedback to the student that the answer is correct. This needs to be specific and clear. If the response is incorrect the teachers are trained to provide some form of positive corrective feedback. Such feedback might be to probe by asking the question differently or to provide some more information and re-ask the question.

Workshops 6 and 7 are conducted after observations at the end of each semester to see whether recommendations from the earlier workshops were followed. New profiles are prepared for each teacher in the form of transparencies so that the second and third profiles can be laid over the first profile to examine changes in teacher behavior. Feedback based on these profiles of teacher behavior is given to each teacher individually. Recommendations for continued behavior change are made.

Staff Development Model

This staff development model requires that the number of teachers being trained is kept small (five to seven). The training sessions are 2.5 hours long. They are conducted once a week for five weeks in November or February, either after school hours or during school time. The school system either provides monetary incentives, release time or inservice credit. The content of the workshops is guided by the findings from research on effective teaching. Research findings are presented and theories of child development are discussed. The theory and research are then grounded in practical classroom examples, teachers' experiences and problem solving skills. The training process is interactive and supportive. Teachers are helped to find methods to work with the students in their care and to find ways to work effectively in their school situation. The focus of the five workshops is to help teachers think in terms of using time effectively, provide supportive and interactive instruction, and motivate each student to stay on-task.